

## ABSTRACT

A communication system uses analog and digital circuits along the same data path in a manner that permits the analog circuitry to avoid adverse affects caused by the digital circuitry. Consistent with one embodiment directed to a signal processing system that  
5 detects faint incoming signals, the analog and digital circuits are implemented on a single piece of silicon. In such signal processing systems, noise generated by digital processing blocks can degrade the performance of sensitive analog portions. The effective noise is reduced by causing the analog and digital portions of the system to function during separate time intervals. The noise-generating portions of the system may then be turned  
10 off during a first data-communication interval while the analog block operates. The data acquired during this period is stored for subsequent processing by the digital portion during a second shorter data-communication interval. Other aspects are applicable to reception arrangements in which part of the incoming signal may be disregarded without significant degradation in performance of the rest of the system, and other aspects are  
15 directed to transmission arrangements in which the inverse of the above reception arrangement is used.